



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/671,422	09/26/2003	Albrecht Schmidt	13909-076001 / 2002P10147	1157
32864 7590 04/03/2007 FISH & RICHARDSON, P.C. PO BOX 1022 MINNEAPOLIS, MN 55440-1022			EXAMINER BECK, ALEXANDER S	
			ART UNIT	PAPER NUMBER
			2629	

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	04/03/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary	Application No.	Applicant(s)	
	10/671,422	SCHMIDT ET AL.	
	Examiner	Art Unit	
	Alexander S. Beck	2629	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 26 September 2003.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-22 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-22 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 26 September 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>8-16-04, 9-3-04</u> | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Information Disclosure Statement

1. The information disclosure statements (IDS) filed on August 16, 2004, and September 3, 2004, have been acknowledged and considered by the Examiner. Initialed copies of the PTO-1449 are included in this correspondence.

Claim Rejections - 35 USC § 101

2. 35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

Claims 18-22 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter. Code segments within an application are neither computer components nor statutory processes, as they are not "acts" being performed nor do they define any structural and functional interrelationships between the computer program and other claimed elements of a computer, which permit the computer program's functionality to be realized.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Art Unit: 2629

4. Claims 1-13,15,16,18 and 20-22 are rejected under 35 U.S.C. 102(b) as being anticipated by U.S. Patent No. 4,511,760 to Garwin et al. (hereinafter *Garwin*).

As to claim 1, *Garwin* teaches/suggests a method comprising: measuring force distribution information at a plurality of points on a substantially continuous surface; processing the force distribution information to identify events on the surface; and mapping the events to pointing device behavior. *Garwin* at col 7 ln 3-48.

As to claim 2, *Garwin* teaches/suggests wherein processing the force distribution information comprises calculating a center of pressure of a total force on the surface. *Garwin* at col 7 ln 3-48.

As to claim 3, *Garwin* teaches/suggests detecting an increase in a sum of forces measured at each of the plurality of points; determining that the increase in the sum of the forces is between a lower threshold and an upper threshold; and identifying that the surface is being touched, based on the increase in the sum of the forces. *Garwin* at col 6 ln 4-25, col 7 ln 3-28.

As to claim 4, *Garwin* teaches/suggests detecting a decrease in the sum of the forces; and identifying that the surface is no longer being touched, based on the decrease in the sum of the forces. *Garwin* at col 7 ln 3-28.

As to claim 5, *Garwin* teaches/suggests monitoring changes in the force distribution information at the plurality of points for a period of time; determining that a sum of the changes for the period of time is less than a threshold; and identifying that there is no interaction on the surface. *Garwin* at col 7 ln 3-28.

As to claim 6, *Garwin* teaches/suggests monitoring changes in the force distribution information at the plurality of points for a period of time; identifying a change in the center of pressure; and mapping the change in the center of pressure to pointing device movement. *Garwin* at col 1 ln 14-23, col 7 ln 3-28.

As to claim 7, *Garwin* teaches/suggests detecting an increase in a sum of forces measured at each of the plurality of points; detecting a subsequent decrease in the sum of forces measured at each of the plurality of points; and identifying a mouse click event, based on the increase and subsequent decrease in the sums of forces. *Garwin* at col 1 ln 14-23, col 7 ln 3-28.

As to claim 8, *Garwin* teaches/suggests measuring a pre-load force distribution on the surface; and subtracting the pre-load force distribution from the force distribution information, prior to computing the center of pressure. *Garwin* at col 6 ln 4-25.

As to claim 9, *Garwin* teaches/suggests a plurality of sensors operable to sense force distribution information at points on a substantially continuous surface; and a pointer manager

Art Unit: 2629

operable to map the force distribution information to pointing information. *Garwin* at col 1 ln 14-23, col 5 ln 50-52, col 7 ln 3-28.

As to claim 10, *Garwin* teaches/suggests a location determiner operable to determine a center of pressure of the force distribution. *Garwin* at col 6 ln 4 – col 7 ln 35.

As to claim 11, *Garwin* teaches/suggests wherein the surface is rectangular, and the plurality of sensors includes a sensor located at each corner of the rectangular surface. *Garwin* at col 5 ln 50-52, Figure 4.

As to claim 12, *Garwin* teaches/suggests an analog to digital converter that is operable to convert analog signals from the sensors to digital signals. *Garwin* at col 6 ln 35-54.

As to claim 13, *Garwin* teaches/suggests a communication device operable to communicate the digital signals to a computer. *Garwin* at Figure 5.

As to claim 15, *Garwin* teaches/suggests wherein the computer includes a mouse emulator to translate the digital signal into mouse pointing events. *Garwin* at col 1 ln 14-23, col 5 ln 50-52, col 7 ln 3-28.

As to claim 16, *Garwin* teaches/suggests wherein the surface is a table. *Garwin* at Figure 2 and 4.

As to claim 18, *Garwin* teaches/suggests an application comprising: a code segment operable to measure force distribution information at a plurality of points on a substantially continuous surface; a code segment operable to process the force distribution information to identify events on the surface; and a code segment operable to map the events to pointing device behavior. *Garwin* at col 1 ln 14-23, col 7 ln 3-48.

As to claim 20, *Garwin* teaches/suggests a code segment operable to monitor changes in the force distribution information at the plurality of points for a period of time; a code segment operable to identify a change in a center of force of the object; and a code segment operable to map the change in the center of force to pointing device movement. *Garwin* at col 1 ln 14-23, col 5 ln 50-52, col 7 ln 3-28.

As to claim 21, *Garwin* teaches/suggests a code segment operable to detect an increase in a sum of forces measured at the plurality of points; a code segment operable to detect a subsequent decrease in the sum of forces measured at the plurality of points; and a code segment operable to identify a mouse click event, based on the increase and subsequent decrease in the sums of forces. *Garwin* at col 1 ln 14-23, col 7 ln 3-28.

As to claim 22, *Garwin* teaches/suggests a code segment operable to measure a pre-load force distribution on the surface; and a code segment operable to subtract the pre-load force

distribution from the force distribution information prior to computing a center of pressure.

Garwin at col 1 ln 14-23, col 6 ln 4-25.

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

6. Claim 19 is rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 4,511,760 to Garwin et al.

As to claim 19, *Garwin* teaches/suggests an application comprising: a code segment operable to detect an increase in a sum of forces measured at each of the plurality of points; a code segment operable to determine that the increase in the sum of the forces is above a lower

Art Unit: 2629

threshold; and a code segment operable to identify that the surface is being touched, based on the increase in the sum of the forces. *Garwin* at col 7 ln 3-28. *Garwin* teaches/suggests hardware for determining if the increase in the sum is below an upper threshold. *Garwin* at col 6 ln 4-25.

Garwin does not disclose expressly wherein a code segment determines if the increase in sum is below the upper threshold.

However, the examiner takes Official Notice that implementing hardware capabilities into software applications is old and well known in the art.

Therefore, at the time the invention was made, it would have been obvious to a person of ordinary skill in the art to modify the teachings of *Garwin* such that a code segment in an application performed the determination of whether the increase in sum is below an upper threshold.

The suggestion/motivation for doing so would have been because code written in an application is more flexible in the design and implementation process than hardware is, and would therefore have been more user friendly.

7. Claim 14 is rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 4,511,760 to Garwin et al. in view of U.S. Patent No. 6,121,960 to Carroll et al. (hereinafter *Carroll*).

As to claim 14, *Garwin* teaches/suggests a communication device operable to communicate the digital signals to a computer. *Garwin* at Figure 5.

Garwin does not disclose expressly wherein the communication device includes a RF transceiver.

Carroll, analogous in art with *Garwin*, teaches/suggests a touch sensitive input device with a display that is in wireless communication with a computing device through a RF transceiver. *Carroll* at col 7 ln 10-29.

At the time the invention was made, it would have been obvious to a person of ordinary skill in the art to modify the teachings of *Garwin* such that the device for receiving a touch input was in wireless communication with a computing device through a RF transceiver, as taught/suggested by *Carroll*.

The suggestion/motivation for doing so would have been to provide a greater degree of freedom for a user operating the touch sensitive input device with respect to the proximity of the computing device, as one of ordinary skill in the art would readily appreciate from the teachings of *Carroll*.

8. Claim 17 is rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 4,511,760 to *Garwin et al.* in view of Japanese Patent No. 2002-163073 to *Inoue* (hereinafter *Inoue*).

As to claim 17, note the above discussion of *Garwin* with respect to claim 9.

Garwin does not disclose expressly a second set of sensors operable to sense force distribution information at points on a second substantially continuous surface; a second pointer manager operable to map the force distribution information to pointing information; and a

Art Unit: 2629

computer including a mouse emulator operable to translate the force distribution information from the first and second surfaces into a stream of mouse pointing events.

Inoue, analogous in art with *Garwin*, teaches/suggests a second set of sensors operable to sense force distribution information at points on a second substantially continuous surface; a second pointer manager operable to map the force distribution information to pointing information; and a computer including a mouse emulator operable to translate the force distribution information from the first and second surfaces into a stream of mouse pointing events. *Inoue* at Abstract.

At the time the invention was made, it would have been obvious to a person of ordinary skill in the art to modify the teachings of *Garwin* such that the system comprising a second set of pointers and pointer manager, and a computer operable to translate input information from first and second surfaces into a stream of mouse pointing events, as taught/suggested by *Inoue*.

The suggestion/motivation for doing so would have been to beneficially decrease the number of components required to process two separate users interacting with two separate touch sensitive input devices, as one of ordinary skill in the art would readily appreciate from the teachings of *Inoue*.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Alexander S. Beck whose telephone number is (571) 272-7765. The examiner can normally be reached on M-F, 8AM-5PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Sumati Lefkowitz can be reached on (571) 272-3638. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

asb
3/29/07



RICHARD HJERPE
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2600